

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

For: Hugh McCraw

Date: Sunday, January 04, 2015

Kodak -10- 7-3-28

Case 1

Sincerely,
Sheldon Cotts

Table of Contents

1.1	Executive Summary	3
1.2	Cementing Job Summary	4
1.3	Planned Pumping Schedule	7
1.4	Job Event Log	8
2.0	Custom Graphs	10
2.1	Custom Graph	10
2.2	Custom Graph	11
3.0	Appendix	12

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Kodak 10** cement **Intermediate** casing job. A pre-job safety meeting was held before the job where details of the job were discussed, potential safety hazards were reviewed, and environmental compliance procedures were outlined.

Halliburton maintains a continuous quality improvement process and appreciates any comments or suggestions that you may have. Halliburton again thanks you for the opportunity to perform service work on this well. We hope to be your solutions provider for future projects.

Respectfully,

Halliburton [Brighton]

Job Times

	Date	Time	Time Zone
Called Out	1/3/15	2120	MST
On Location	1/4/15	0400	MST
Job Started	1/4/15	1050	MST
Job Completed	1/4/15	1239	MST

1.2 Cementing Job Summary

Sold To #: 369404		Ship To #: 3113131		Quote #:		Sales Order #: 0901997666				
Customer: EXTRACTION OIL & GAS					Customer Rep: Hugh McCraw					
Well Name: KODAK			Well #: 10-7-3-28-270-4-N			API/UWI #: 05-123-37257-00				
Field: WATTENBERG		City (SAP): WINDSOR		County/Parish: WELD			State: COLORADO			
Legal Description: SW NW-27-6N-67W-1341FNL-1042FWL										
Contractor: FRONTIER DRLG				Rig/Platform Name/Num: FRONTIER 10						
Job BOM: 7522										
Well Type: HORIZONTAL OIL										
Sales Person: HALAMERICA\HB21661				Srv Supervisor: Devin Birchell						
Job										
Formation Name										
Formation Depth (MD)		Top				Bottom				
Form Type				BHST		225 degF				
Job depth MD		7300ft		Job Depth TVD						
Water Depth				Wk Ht Above Floor						
Perforation Depth (MD)				To						
Well Data										
	New / Used	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
Casing	0	9.625	8.921	36	BTC	J-55	0	793	0	0
Casing	0	7	6.276	26	BTC	P-110	0	7300	0	0
Open Hole Section			8.75				793	7300	0	0
Tools and Accessories										
Type	Size in	Qty	Make	Depth ft		Type	Size in	Qty	Make	
Guide Shoe	7	1		7300		Top Plug	7	1	HES	
Float Shoe	7	1				Bottom Plug	7	1	HES	
Float Collar	7	1				SSR plug set	7	1	HES	
Insert Float	7	1				Plug Container	7	1	HES	
	7	1				Centralizers	7	1	HES	

Fluid Data

Stage/Plug #: 1

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
1	11.5 lb/gal Tuned Spacer III	Tuned Spacer III	40	bbl	11.5	3.76	24.2	6	
149.34 lbm/bbl		31)							
36.20 gal/bbl									

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
2	Lead Cement	ECONOCEM (TM) SYSTEM	480	sack	12.7	1.89		6	9.99
9.99 Gal									
61.10 lbm		K (101439798)							

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
3	Tail Cement	EXPANDACEM (TM) SYSTEM	273	sack	13.8	1.67		6	7.73
0.10 %		50)							
7.73 Gal									

Fluid #	Stage Type	Fluid Name	Qty	Qty UoM	Mixing Density lbm/gal	Yield ft ³ /sack	Mix Fluid Gal	Rate bbl/min	Total Mix Fluid Gal
4	Displacement	Displacement	285	bbl	10				

	Amount	42 ft			
Comment					

1.3 Planned Pumping Schedule

- 1. Fill Lines with Water**
 - a. Density = 8.33 lb/gal
 - b. Volume = 2 bbls
- 2. Pressure Test Lines to 4700 psi**
- 3. Pump Tuned Spacer**
 - a. Density = 11.5 lb/gal
 - b. Volume = 40 bbl
 - c. Rate = 5 bpm
- 4. Pump EconoCem (Lead)**
 - a. Density = 12.7 lb/gal
 - b. Yield = 1.89 ft³/sk
 - c. Water Requirement = 9.99 gal/sk
 - d. Volume = 480 sks (161 bbls)
 - e. Rate = 8 bpm
- 5. Pump ExpandaCem (Tail)**
 - a. Density = 13.8 lb/gal
 - b. Yield = 1.67 ft³/sk
 - c. Water Requirement = 7.73 gal/sk
 - d. Volume = 273 sks (81 bbls)
 - e. Rate = 8 bpm
- 6. Drop Top Plug**
- 7. Start Displacement**
- 8. Pump Displacement Water**
 - a. Density = 10 lb/gal
 - b. Volume = 285 bbls
 - c. Rate = 8 bpm
- 9. Land Plug – Anticipated Final Circulation Pressure 1250 psi**

Calculated Total Displacement = 285 bbls

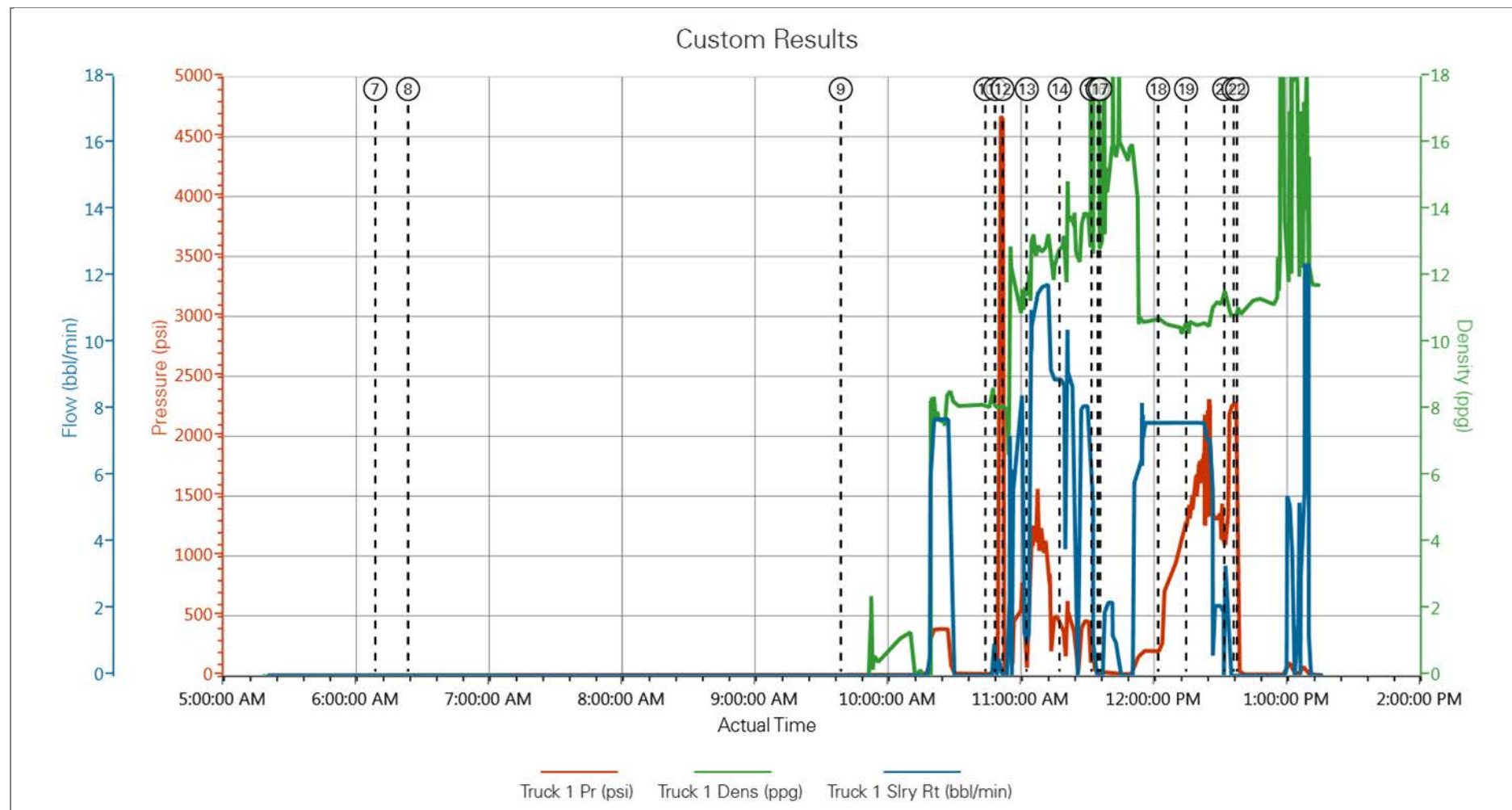
1.4 Job Event Log

Type	Seq. No.	Activity	Graph Label	Date	Time	Source	Truck 1 Pr (psi)	Truck 1 Dens (ppg)	Truck 1 Slry Rt (bbl/min)	Comment
Event	1	Call Out	Call Out	1/3/2015	21:20:12	USER				called cement crew out for extraction intermediate
Event	2	Pre-Convoy Safety Meeting	Pre-Convoy Safety Meeting	1/4/2015	02:40:12	USER				discussed route weather other traffic and fallowing distance
Event	3	Depart from Service Center or Other Site	Depart from Service Center or Other Site	1/4/2015	03:00:12	USER				called journey and departed for location
Event	4	Arrive At Loc	Arrive At Loc	1/4/2015	04:00:45	USER				ended journey and talked to company rep on pressures rates depths volumes
Event	5	Pre-Rig Up Safety Meeting	Pre-Rig Up Safety Meeting	1/4/2015	04:20:01	USER				discuss spotting equipment swing path pinch points
Event	6	Rig-Up Equipment	Rig-Up Equipment	1/4/2015	04:30:02	USER				spot in pump and rig up water and bulk hoses and iron to red zone
Event	7	Pre-Job Safety Meeting	Pre-Job Safety Meeting	1/4/2015	06:10:25	USER	4.00	-2.28	0.00	discuss job procedures with rig and cement crews
Event	8	Wait on HES or HES Sub-Contractor Equipment - Start Time	Wait on HES or HES Sub-Contractor Equipment - Start Time	1/4/2015	06:25:12	USER	4.00	-2.24	0.00	road motor on pump will not stay running called for a mechanic and a relief pump
Event	9	Wait on HES or HES Sub-Contractor Equipment - End Time	Wait on HES or HES Sub-Contractor Equipment - End Time	1/4/2015	09:40:25	USER				relief pump arrived to location and was tied in to lines
Event	10	Rig-Up Completed	Rig-Up Completed	1/4/2015	10:45:45	USER	12.00	8.07	0.00	tied in to casing and filled lines ready for pressure test
Event	11	Test Lines	Test Lines	1/4/2015	10:50:02	COM1	3079.00	8.07	0.00	pressure test pump and lines to 4690 psi
Event	12	Pump Spacer 1	Pump Spacer 1	1/4/2015	10:53:24	COM1	16.00	8.01	0.00	pump 40 bbls tuned spacer III @ 11.5 ppg
Event	13	Pump Lead Cement	Pump Lead Cement	1/4/2015	11:04:18	USER	843.00	11.38	8.30	pump 161 bbls (480 sks) 12.7 ppg lead y: 1.89 ft3/sk

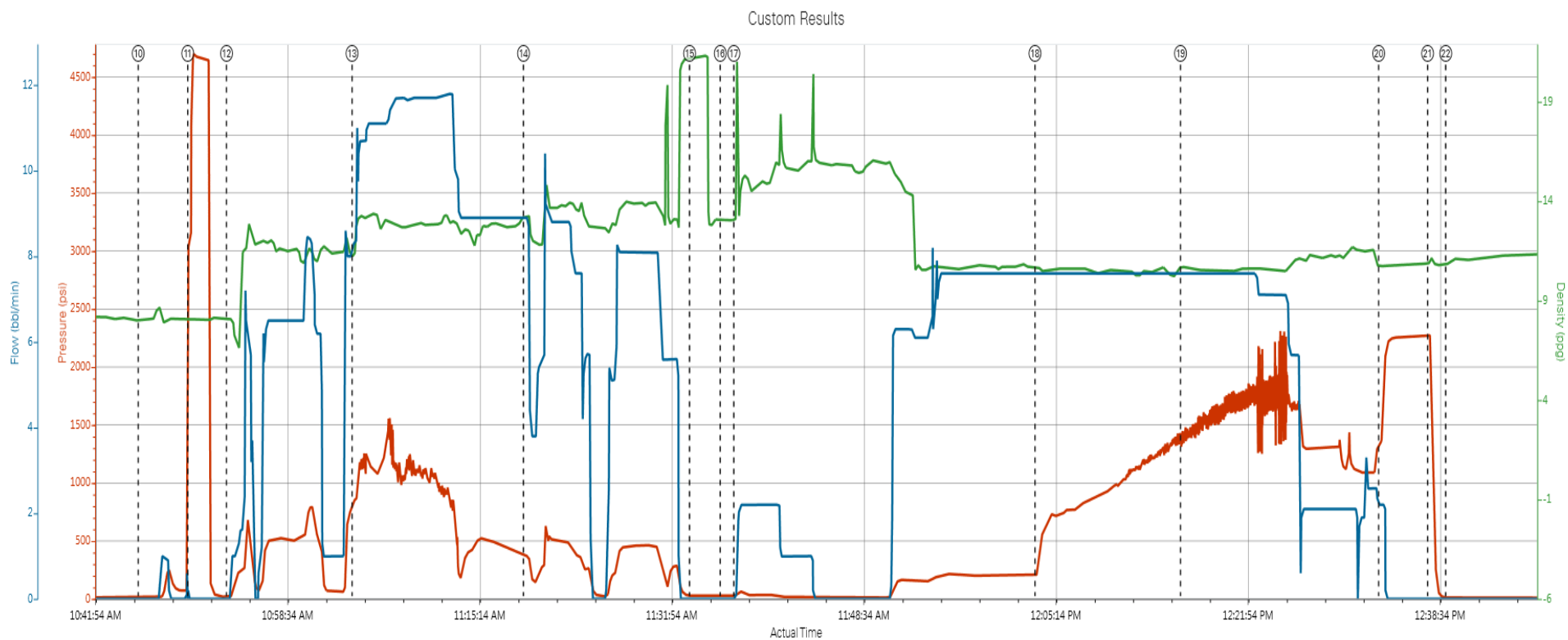
										w: 9.99 gal/sk
Event	14	Pump Tail Cement	Pump Tail Cement	1/4/2015	11:19:11	COM1	374.00	13.26	8.90	pump 81 bbls (273 sks) 13.8 ppg tail y: 1.67 ft3/sk w: 7.73 gal/sk
Event	15	Drop Top Plug	Drop Top Plug	1/4/2015	11:33:35	USER	27.00	21.21	0.00	dropped top plug witnessed by rig hand
Event	16	Clean Lines	Clean Lines	1/4/2015	11:36:15	USER	28.00	13.08	0.00	cleaned pump and lines on top of plug
Event	17	Pump Displacement	Pump Displacement	1/4/2015	11:37:26	COM1	28.00	13.10	0.00	pump 10 bbls wash up 255 bbls mud 20 bbls fresh water
Event	18	Displ Reached Cmnt	Displ Reached Cmnt	1/4/2015	12:03:33	USER	205.00	10.67	7.60	displacement reached cement with 103 bbls away
Event	19	Spacer Returns to Surface	Spacer Returns to Surface	1/4/2015	12:16:11	USER	1435.00	10.73	7.60	spacer returns to surface with 196 bbls displacement away
Event	20	Bump Plug	Bump Plug	1/4/2015	12:33:23	USER	1335.00	10.76	2.20	
Event	21	Check Floats	Check Floats	1/4/2015	12:37:37	USER	2279.00	10.89	0.00	
Event	22	End Job	End Job	1/4/2015	12:39:12	COM1	11.00	10.81	0.00	

2.0 Custom Graphs

2.1 Custom Graph



2.2 Custom Graph



3.0 Appendix
